

INTRODUCTION

- Short course of prednisolone may be beneficial in weaning infants with severe bronchopulmonary dysplasia (BPD) off oxygen
- Effects of longer-term use of prednisolone remain unclear

OBJECTIVES

- Assess the beneficial effect of long-term prednisolone on respiratory status
- Evaluate the safety of long-term prednisolone use

METHODS

- 7-year retrospective study of infants with severe BPD treated with extended course (>5 days) of prednisolone.
- Efficacy was determined using a validated **pulmonary severity score (PSS)** that takes into account fraction of inspired oxygen, respiratory support, and medications
- Safety was assessed by evaluating **growth** and incidence of other **adverse effects**
- Wilcoxon signed rank test was used to determine difference in medians of PSS and growth parameters before and after prednisolone treatment.

RESULTS

Table 1: Baseline characteristics

Variables	N=34
GA at birth, weeks	26.5 ± 2.6
Birth weight, grams	738.1 ± 244.1
GA treatment started	44 (40.1, 48.8)
GA treatment ended	51.9 (47.8-57.3)
Length of therapy, days	45 (22, 66.5)
Total cumulative dose, mg/kg	28.4 (17.5, 67.1)

Table 2: Safety and Efficacy Outcomes

Variables	Start of therapy	End of therapy	P value
Efficacy			
PSS	1.06 (0.82-1.70)	0.85 (0.48-1.08)	0.01
Safety			
Weight	-1.71 (-4.27, -0.87)	-2.13 (-4.25, -1.26)	0.12
HC	-1.57 (-3.79, -0.58)	-1.83 (-3.53, -0.58)	0.26
Length	-2.84 (-5.63, -1.64)	-4.26 (-5.41, -2.64)	0.07

Table 3: Incidence of other adverse effects

Variables	N (%)
Osteopenia	7 (21)
HTN	4 (12)
Culture proven sepsis	1 (3)
Hyperglycemia	0 (0)

Table 4: Other outcomes

Variables	N (%)
Severe BPD or death	34 (100)
Death	6 (18)
Severe BPD	28 (82)
Outcomes of survivors (N=28)	
Tracheostomy	16 (57)
Home on oxygen	27 (96)
Prednisolone at discharge	10 (36)
Inhaled steroids at discharge	16 (57)

CONCLUSION

- Extended course of prednisolone use seem to provide modest improvement in PSS.
- Osteopenia and hypertension are common adverse effects.
- Although not significant, there is a concerning trend towards decreased length with long-term prednisolone therapy.